

**TECHNICAL DATA SHEET 4199, REV. -**

**TRANSIENT VOLTAGE SUPPRESSOR 5000 WATT SERIES**  
**GLASS PASSIVATED DIE/CELL**

**FEATURES**

- 5000W peak pulse power dissipation
- Glass passivated junction
- Low incremental surge resistance
- Excellent clamping capability
- Repetition rate (duty cycle): 0.05%
- Fast response time: typically less than 1.0 ps
- Typical IR less than 1 $\mu$ A above 10V

**APPLICATIONS**

- ✓ Power Supply Surge Protection
- ✓ Data Link Surge Protection
- ✓ Lightning Transient Suppression
- ✓ Electrostatic Protection

**DESCRIPTION**

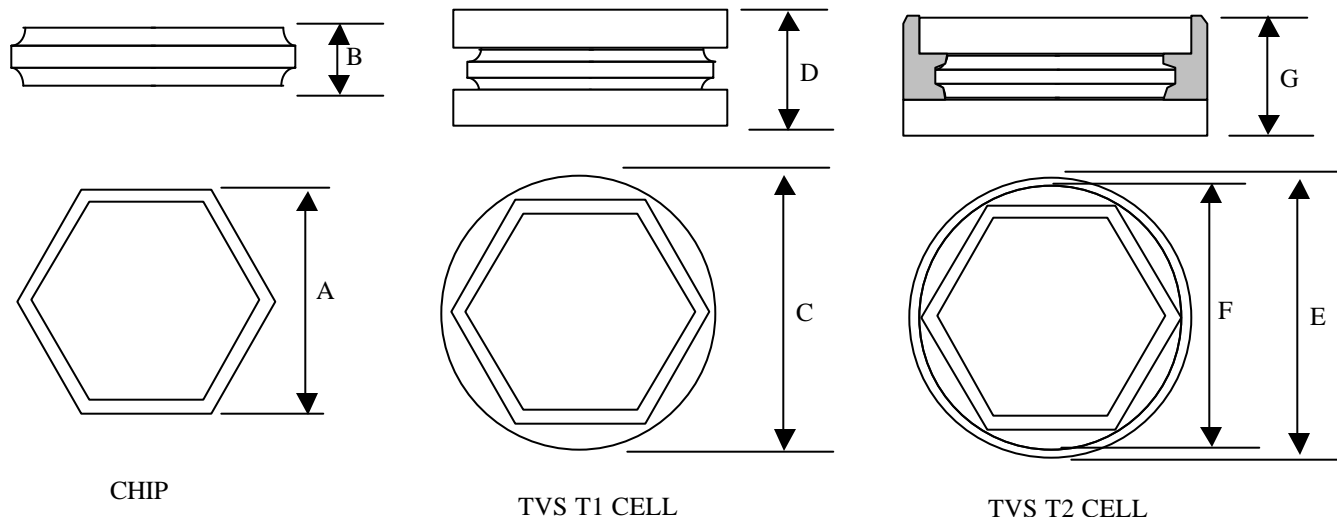
This is a transient voltage suppressor series extending from 5.0 volts to 100 volts. It is available in either uni-directional or bi-directional configurations.

The cell version is available in a Type 1 configuration with double tabs. A Type 2 configuration with silicone edge protection protecting the edge of the die and the die cavity between the double tabs is also available as a custom option.

**ELECTRICAL CHARACTERISTICS**

PARAMETER	SYMBOL	Test Conditions	Min	TYP	Max	Unit
Peak Pulse Power	Pppm	TA = 25 8C, Tp = 1 ms (Note 1)	5000			Watts
Electrical Parameters				See Table		
Maximum Solder Temperature	Tmax	10 Second exposure			250	8C
Operating & Storage Temperature		Tj, Tstg	-55		175	8C

Note 1: Non-repetitive current pulse, per Fig. 3 and derated above TA = 25 8C per Fig. 2.



A	B	C	D	E	F	G
220	13.5	277	98	305	277	98

Note 1: All dimension in MIL

Note 2: The dimension is for low voltage parts (<40V) only. The dimension B, D and G will be larger for high voltage parts (>40V).

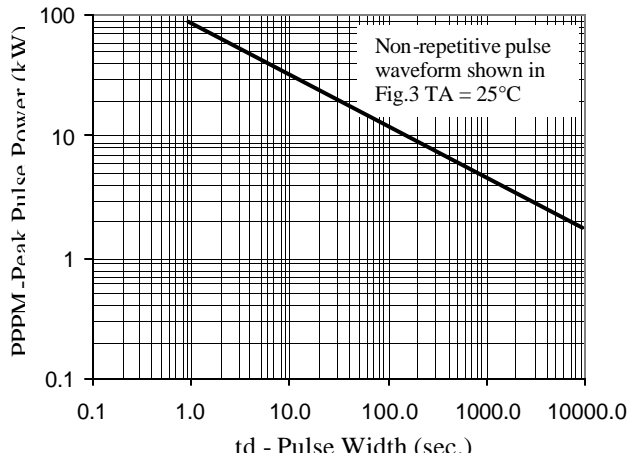
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Note 2: Die only configuration requires user to provide adequate energy absorption.

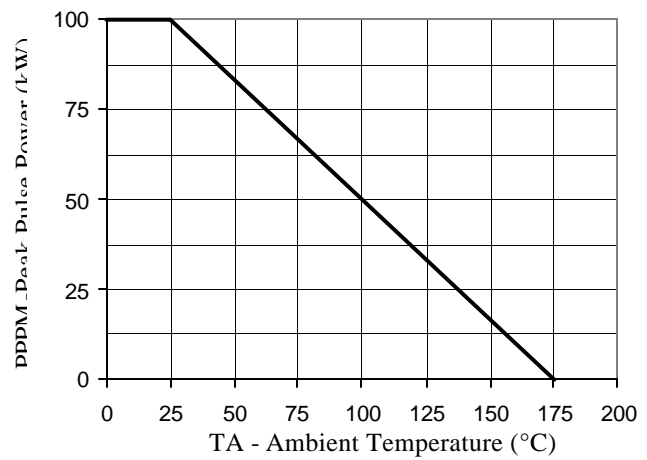
**SEN-R-1050-XXX 5000 Watt TVS Series**

Part Number	V <sub>r</sub> (V)	V <sub>z</sub> min @ I <sub>z</sub> (V)	V <sub>z</sub> max @ I <sub>z</sub> (V)	I <sub>z</sub> (mA)	V <sub>cc</sub> (V)	I <sub>p</sub> (A)	I <sub>r</sub> max @ V <sub>r</sub> ( $\mu$ A)
SEN-R-1050-001	5.0	6.40	7.00	50	9.2	544.0	10000
SEN-R-1050-002	6.0	6.67	7.37	50	10.3	486.0	10000
SEN-R-1050-003	6.5	7.22	7.98	50	11.2	447.0	4000
SEN-R-1050-004	7.0	7.78	8.60	50	12.0	417.0	2000
SEN-R-1050-005	7.5	8.33	9.21	5	12.9	388.0	500
SEN-R-1050-006	8.0	8.89	9.83	5	13.6	368.0	300
SEN-R-1050-007	8.5	9.44	10.40	5	14.4	348.0	100
SEN-R-1050-008	9.0	10.00	11.10	5	15.4	325.0	40
SEN-R-1050-009	10.0	11.10	12.30	5	17.0	295.0	30
SEN-R-1050-010	11.0	12.20	13.50	5	18.2	275.0	10
SEN-R-1050-011	12.0	13.30	14.70	5	19.9	252.0	10
SEN-R-1050-012	13.0	14.40	15.90	5	21.5	233.0	10
SEN-R-1050-013	14.0	15.60	17.20	5	23.2	216.0	10
SEN-R-1050-014	15.0	16.70	18.50	5	24.4	205.0	10
SEN-R-1050-015	16.0	17.80	19.70	5	26.0	193.0	10
SEN-R-1050-016	17.0	18.90	20.90	5	27.6	181.0	10
SEN-R-1050-017	18.0	20.00	22.10	5	29.2	172.0	10
SEN-R-1050-018	20.0	22.20	24.50	5	32.4	154.0	10
SEN-R-1050-019	22.0	24.00	26.90	5	35.5	141.0	10
SEN-R-1050-020	24.0	26.70	29.50	5	38.9	129.0	10
SEN-R-1050-021	26.0	28.90	31.90	5	42.1	119.0	10
SEN-R-1050-022	28.0	31.10	34.40	5	45.4	110.0	10
SEN-R-1050-023	30.0	33.30	36.80	5	48.4	103.0	10
SEN-R-1050-024	33.0	36.70	40.60	5	53.3	93.9	10
SEN-R-1050-025	36.0	40.00	44.20	5	58.1	86.1	10
SEN-R-1050-026	40.0	44.40	49.10	5	64.5	77.6	10
SEN-R-1050-027	43.0	47.80	52.80	5	69.4	72.1	10
SEN-R-1050-028	45.0	50.00	55.30	5	72.7	68.8	10
SEN-R-1050-029	48.0	53.30	58.90	5	77.4	64.7	10
SEN-R-1050-030	51.0	56.70	62.70	5	82.4	60.7	10
SEN-R-1050-031	54.0	60.00	66.30	5	87.1	57.5	10
SEN-R-1050-032	58.0	64.40	71.20	5	93.6	53.5	10
SEN-R-1050-033	60.0	66.70	73.70	5	96.8	51.7	10
SEN-R-1050-034	64.0	71.10	78.60	5	103.0	48.6	10
SEN-R-1050-035	70.0	77.80	86.00	5	113.0	44.3	10
SEN-R-1050-036	75.0	83.30	92.10	5	121.0	41.4	10
SEN-R-1050-037	78.0	86.70	95.80	5	126.0	39.7	10
SEN-R-1050-038	85.0	94.40	104.00	5	137.0	36.5	10
SEN-R-1050-039	90.0	100.00	111.00	5	146.0	34.3	10
SEN-R-1050-040	100.0	110.00	123.00	5	162.0	30.9	10
SEN-R-1050-041	110.0	122.00	135.00	5	177.0	28.3	10
SEN-R-1050-042	120.0	133.00	147.00	5	193.0	26.0	10
SEN-R-1050-043	130.0	144.00	159.00	5	209.0	24.0	10
SEN-R-1050-044	150.0	167.00	185.00	5	243.0	20.6	10
SEN-R-1050-045	160.0	178.00	197.00	5	259.0	19.3	10
SEN-R-1050-046	170.0	189.00	209.00	5	275.0	18.2	10
SEN-R-1050-047	180.0	200.00	233.00	5	289.0	17.3	10

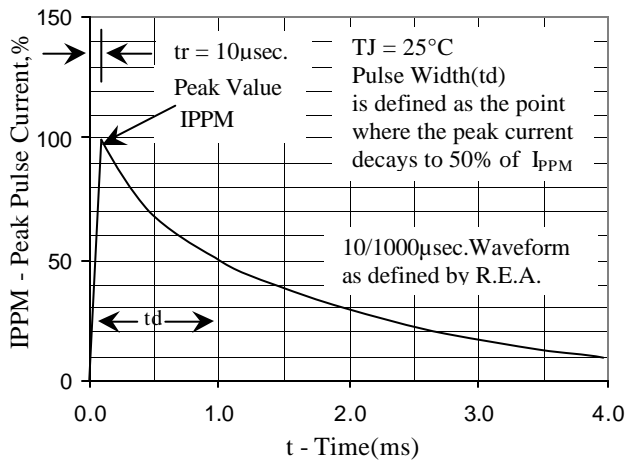
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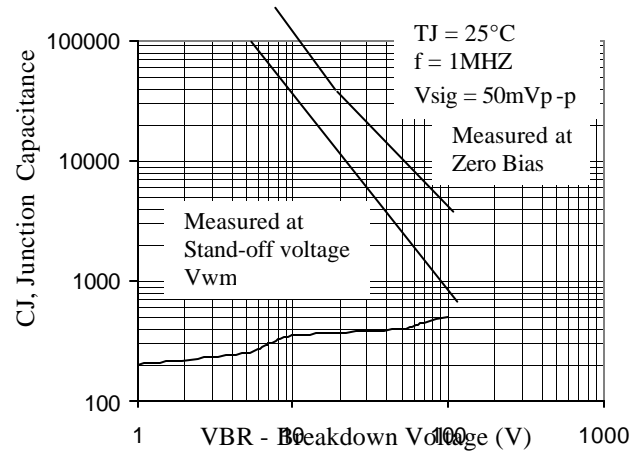
**Fig. 1 - Peak Pulse Power Rating Curve**



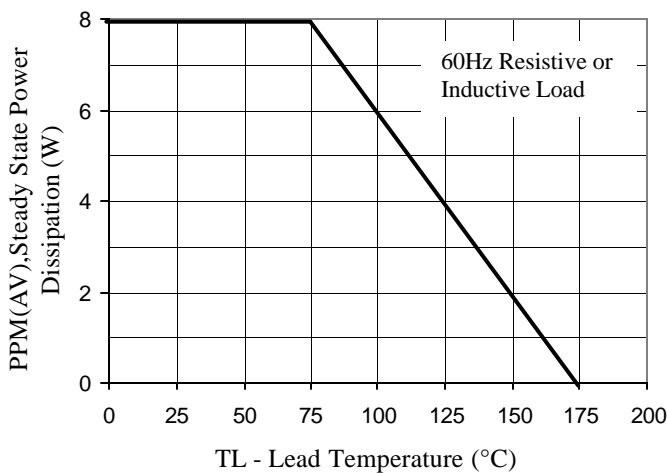
**Fig.2 - Pulse Derating Curve**



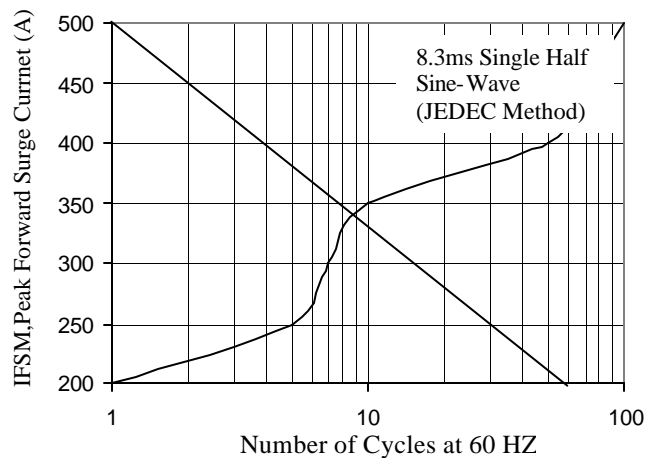
**Fig.3 - Pulse Waveform**



**Fig. 4 - Typical Junction Capacitance**



**Fig. 5 - Steady State Power Derating Curve**



**Fig.6 - Maximum Non-repetitive Forward Surge current**

**TECHNICAL DATA**

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